

Remarks

The Office Action mailed on January 11, 2006 has been carefully reviewed as have the references cited by the Examiner in connection therewith. Applicant has now amended claims 1, 2, 3, 12, 13 and 14. Claims 8 and 19 have been canceled. Reconsideration of the application in view of the amended claims is respectfully requested.

Paragraph 22 of the specification has also been amended to substitute the word "shaft" for the word "shank" in the second sentence of the paragraph. The word "shaft" is used to identify this component throughout the remainder of the specification. The word "shank" was inadvertently utilized in place of the word "shaft" in the second sentence of paragraph 22.

In the Office Action, the Examiner first rejected claims 1-3, 5, 7, 9-14, 16, 18 and 20-22 under 35 U.S.C. § 102(b) as being anticipated by a published U.S. patent application to Bleiweiss et al., Pub. No.: US 2003/0013067 A1 ("Bleiweiss"). It is submitted that this rejection is improper for several reasons. First, contrary to the assertion of the Examiner, the "working lengths" of the shafts illustrated by Bleiweiss are not "enlarged" as called for by original independent claim 1. Further, Bleiweiss does not disclose the steps of original independent claim 12. For example, Bleiweiss does not disclose inserting a first instrument of a set of instruments in the coronal portion of the root canal and rotating the instrument to enlarge the coronal portion into a short enlarged continuous taper of a size corresponding to the short enlarged continuously tapered working length of the first instrument and subsequently inserting a second and one or more additional instruments having progressively smaller short enlarged continuously tapered working lengths in the root canal and rotating each instrument to thereby enlarge the root canal to the foramina thereof into an enlarged continuous taper of a size corresponding to the short enlarged continuously tapered working lengths of the first, second and one or more additional instruments. In addition, none of the shafts of the Bleiweiss instruments appear to include flutes and cutting edges thereon between the proximal end of the shaft and the short enlarged continuously tapered working length thereof as called for by dependent claims 10 and 21.

In any event, the additional limitations added to independent claims 1 and 12 by this response clearly distinguish the claimed invention from Bleiweiss. For example, independent claims 1 and 12 now call for the working length of each of the instruments to be tapered from its upper end to its lower end, to have a diameter at its upper end that is greater than the diameter of the shaft throughout the length of the remainder of the shaft, to have a length no longer than about 3 millimeters and to include multiple cutting edges formed by multiple flutes thereon. Step (c) of independent claim 12 now calls for inserting a second of the instruments in the root canal and rotating the instrument to thereby enlarge the root canal in a portion of the root canal beyond the coronal portion thereof into a continuous taper of a size corresponding to the continuously tapered working length of the second instrument, the continuously tapered working length of the second instrument having a smaller average diameter than the average diameter of the continuously tapered working length of the first instrument. Independent claim 12 also now calls for, in step (d), inserting a third of the instruments in the root canal and rotating the instruments to thereby enlarge the root canal in a portion of the root canal closer to the foramina thereof into a continuous taper of a size corresponding to the continuously tapered working length of the third instrument, the continuously tapered working length of the third instrument having a smaller average diameter than the average diameter of the continuously tapered working length of the second instrument.

Thus, claims 1-3, 5, 7, 9-14, 16, 18 and 20-22 all include at least one element not disclosed by Bleiweiss. As a result, the Examiner's rejection of these claims under 35 U.S.C. § 102(b) as being anticipated by Bleiweiss should be withdrawn.

The Examiner next rejected claims 1, 4, 6, 12, 15 and 17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,921,775 to Buchanan ("Buchanan"). As amended, independent claims 1 and 12 now clearly include at least one limitation not disclosed by Buchanan. For example, Buchanan does not disclose a set of instruments, each including a working length that is tapered from its upper end to its lower end, has a diameter at its upper end that is greater than the diameter of the shaft throughout the length of the remainder of the shaft,

that has a length no longer than about 3 millimeters and that includes multiple cutting edges formed by multiple flutes thereon. Buchanan does not disclose a method of performing root canal therapy that includes the steps of independent claim 12. For example, Buchanan does not disclose the step of inserting a third of the instruments in a set of instruments into the root canal and rotating the instrument to thereby enlarge the root canal in a portion of the root canal closer to the foramina thereof into a continuous taper of a size corresponding to the continuously tapered working length of the third instrument, the continuously tapered working length of the third instrument having a smaller average diameter than the average diameter of the continuously tapered working length of the second instrument.

Thus, the Examiner's rejection of claims 1, 4, 6, 12, 15 and 17 under 35 U.S.C. § 102(b) as being anticipated by Buchanan should also be withdrawn.

The Examiner next rejected claims 1, 8, 12 and 19 as being anticipated by U.S. Patent No. 5,735,690 to Malentacca ("Malentacca"). Again, independent claims 1 and 12 now include at least one limitation not disclosed by Malentacca. For example, Malentacca does not disclose a set of instruments, each instrument comprising a working length that is tapered from its upper end to its lower end, has a diameter at its upper end that is greater than the diameter of the shaft throughout the length of the remainder of the shaft, that has a length no longer than about 3 millimeters and that includes multiple cutting edges formed by multiple flutes thereon. Malentacca does not disclose a method of performing root canal therapy that includes the steps of independent claim 12. For example, Malentacca does not disclose the step of inserting a third of the instruments in a set of instruments into the root canal and rotating the instrument to thereby enlarge the root canal in a portion of the root canal closer to the foramina thereof into a continuous taper of a size corresponding to the continuously tapered working length of the third instrument, the continuously tapered working length of the third instrument having a smaller average diameter than the average diameter of the continuously tapered working length of the second instrument.

Thus, the Examiner's rejection of claims 1, 8, 12 and 18 under 35 U.S.C. § 102(b) as being anticipated by Malentacca should also be withdrawn.

Finally, the Examiner rejected claims 3, 7, 14 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Bleiweiss in view of U.S. Patent No. 4,019,254 to Malmin ("Malmin"). The Examiner asserts that it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to make the cutting edges and flutes parallel to the axes of the instruments and have a working length with a cross-section that is triangular and concave in shape in order to properly mill out the root canal and thus improve operation. It is submitted that this rejection is improper. Specifically, there is nothing in the prior art that would have motivated one skilled in the art to combine Malmin with Bleiweiss as asserted by the Examiner. Malmin discloses instruments with cutting edges and flutes that are parallel to the axes of the instruments and with a cross-sectional configuration that is triangular with concave sides; however, none of such instruments include a relatively short, enlarged, continuously tapered working length formed on the shaft adjacent to the distal end of the shaft as called for by the claims of the present application. The relatively short, enlarged, continuously tapered working length allows a taper having three independent axes to be created which allows the curvature portions of the root canal to be shaped without having to bend the shaft of the instrument to an excessive degree.

The inventive instrument set includes instruments having progressively smaller sizes which can be quickly and easily used to establish a tapered canal from the top to the bottom. A set of three instruments, for example, provides a great deal of flexibility to the set in terms of approach angles and so forth. The shapes and sizes of the working lengths of the instruments allow the depths to which the instruments are inserted to be controlled. There is nothing in Bleiweiss or Malmin that would have suggested to the skilled artisan to combine features of the Malmin instruments with the instruments of Bleiweiss to achieve such objectives.

Accordingly, the Examiner's rejection of claims 3, 7, 14 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Bleiweiss in view of Malmin should also be withdrawn.

This is intended to be a complete response to the Office Action on the present application mailed January 11, 2006.

I hereby certify that this correspondence is being deposited in the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.



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Respectfully submitted,



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